



SA-1 Classic Series

User and Quality Inspection Manual

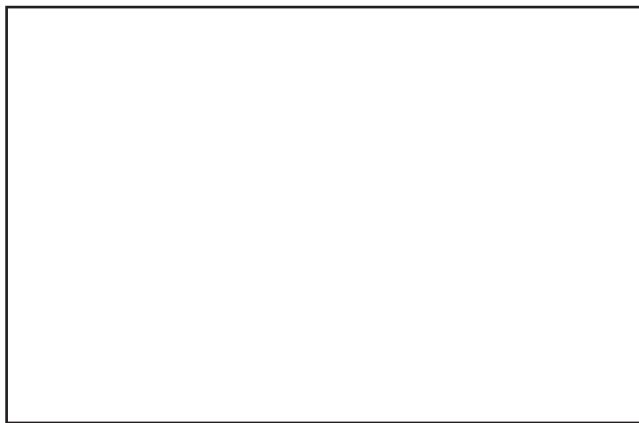
UK

Warning:

To avoid risk of fire or electric shock, do not expose this appliance to rain or moisture. Verify line voltage before use. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel. The warranty is void if the product is tampered with by non-authorized personnel. Use only authorized Abrahamsen service center.

Expand your warranty from two(2) to five(5) years.

Register your amplifier with Abrahamsen and expand your warranty from two(2) to five(5) years. Use the included registration form or registrate online at www.abrahamsenaudio.com. For fastest processing, we recommend using the online registration. When we receive your registration, we will send you a personal warranty card.



Use this information to registrate your amplifier.

Thank you for choosing this Abrahamsen product. We know you will enjoy years of listening pleasure and true High End musical performance from your audio system.

We strongly believe that uncompromising quality is not an option--it's an obligation.

Abrahamsen maintains an extensive set of internal controls to ensure that products are designed, manufactured and supported to the highest standards. A dedicated staff of incoming, intermediate and finished product quality inspectors and auditors ensures that Abrahamsen's products are manufactured to exact specifications.

The signatures shown below certify that this product was tested, it met or exceeded our strict standards.

Electric performance: _____

Listening: _____

Final inspection: _____



Hearing is Believing

Per Abrahamsen
Designer

This user and quality inspection manual contains important information on the placement, installation, and operation of your Abrahamsen product. Please read this information carefully. A thorough understanding of these details will help ensure satisfactory operation and long life for your product.

The story behind the sound

In 1972 Dr. Ojala and Mr. Lohstro finished their work in analysing transistor amplifiers to determine what actually created the "transistor sound" in general transistorised designs. The results of their innovative design work were incorporated in the legendary 25 watt amplifier.

This product was the first commercial transistor amplifier to use this new design approach, and the amplifier was immediately recognised as dramatically more musical sounding than any other transistor amplifier. The same design philosophy, has been constantly updated by additional research and development. This philosophy forms the basis of the new Abrahamsen design.

After the 25 watt amplifier had established a new standard for transistor amplifiers, research was undertaken to find ways to make the amplifier even better, and to extend its highly musical sound quality to more powerful amplifier designs.

With today's quality parts and the improvement of the original design, this amplifier will again set a new industry standard, just as the original did. To extend the quality of this product as much as possible, several features have been built into the concept.

All transistors are matched to further reduce the distortion.

Only high current, high temperature low impedance capacitors are used. This current reservoir is made up from different sizes of capacitors in parallel, to create a supply as linear as possible for all frequencies.

A "clamp" is holding these capacitors, forcing them together to remove any internal movement of the electrolytic so that the well known "micro phonic" effect is avoided.

All AC and DC voltages are connected with 2x6mm copper rails to avoid any cables in the current path.

A new type of speaker terminals has been developed under the name "d'vise". It is made from 16mm copper bolt and 2mm copper bracket to ensure that there are no impedance loss or "diode" junction between your speaker cable and the output transistors.

Fully protected with an intelligent protection circuit with no influence on the sound.

Unpacking the SA-1

Immediately upon receipt of the SA-1, inspect the carton for possible damage during shipment. The carton and packaging have been designed to provide the safest possible protection for the transport of your amplifier. Unpack the unit carefully. Save all packaging materials for future shipment.

The contents of the carton

1 pcs Abrahamsen SA-1

1 pcs AC mains cord

1 pcs Owners manual

1 pcs Spare fuse

(located in the fuse drawer, main inlet. See page 7)

If any of the items mentioned above are not included in the carton, please contact your authorized Abrahamsen dealer, distributor, or Abrahamsen factory for assistance.

Setup procedure

Before connecting the SA-1 to the mains, check that the mains voltage indicated on the rear panel corresponds to the line voltage in the territory you intend to use the unit.

How to avoid damages

Do not under any circumstances connect or disconnect equipment when power is turned on. The design of the RCA plug generates a huge transient when inserted. Connecting or disconnecting equipment with the power on can result in severe damage to both speaker and amplifier.

How to avoid noise problems

The SA-1 contains delicate circuits that are sensitive to magnetic strayfields. The unit should not be placed near mains transformers, TV sets etc. Care should be taken regarding placement of the interconnect cables. Do not run interconnect cables in parallel with main cords or speaker cables. Keep interconnect and speaker cables as short as possible.

How to avoid antenna problems

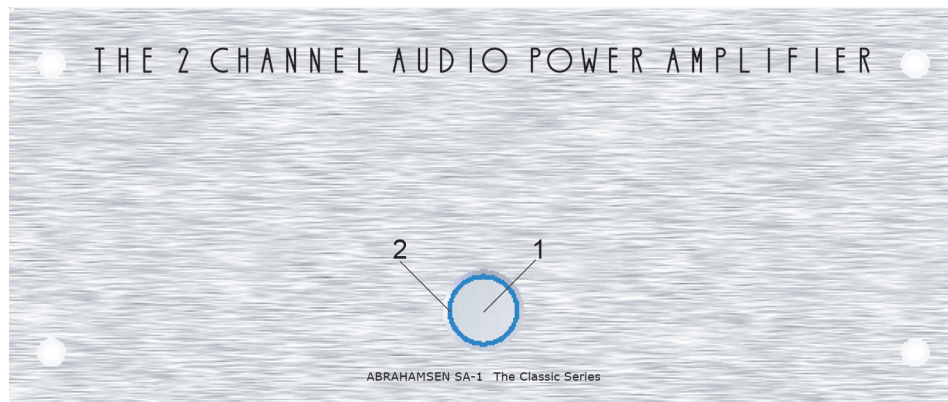
In some set-ups hum may occur when you connect the radio, VCR or TV to your system. The problem is caused by DC voltage coming from your antenna. Please contact your cable network operator.

The amplifier will be warm

Due to the high class A operating point used in the Abrahamsen design, it is normal that the amplifier feels warm. Proper ventilation will be needed, and the amplifier should not be covered in. A good rule is to allow 2-3 inches of air sidewise, and 1-2 inches above the amplifier.

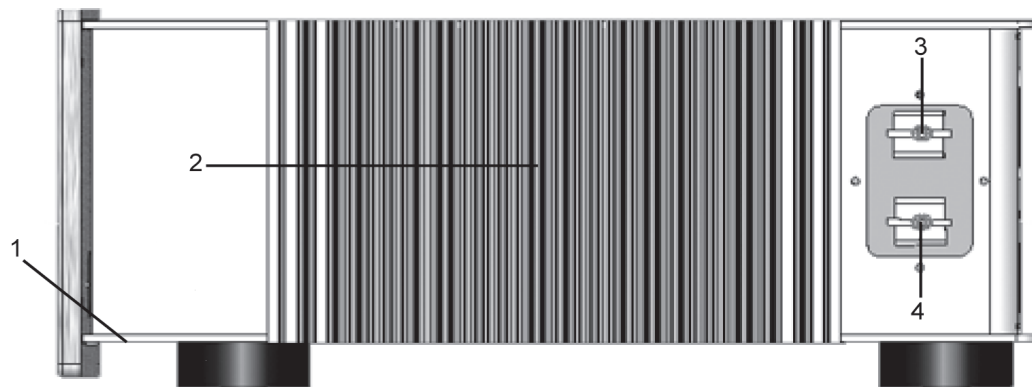
Front panel

- 1.Power switch
- 2.LED circle



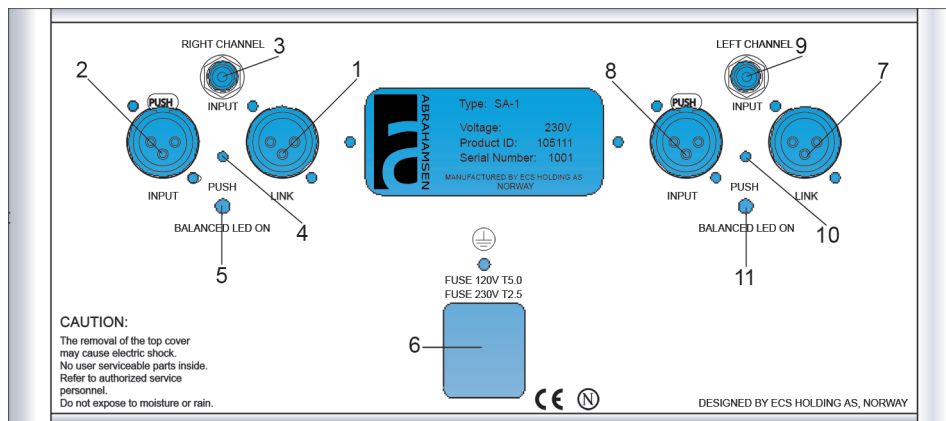
Side panel

- 1.LED circle adjuster
- 2.Heat sink
- 3.Speaker out +
- 4.Speaker out -



Rear panel

- 1.Right balanced link
- 2.Right balanced input
- 3.Right unbalanced input
- 4.LED(light emitting diode)
- 5.Balanced/unbalanced switch
- 6.AC main inlet
- 7.Left balanced link
- 8.Left balanced input
- 9.Left unbalanced input
- 10.LED(light emitting diode)
- 11.Balanced/unbalanced switch

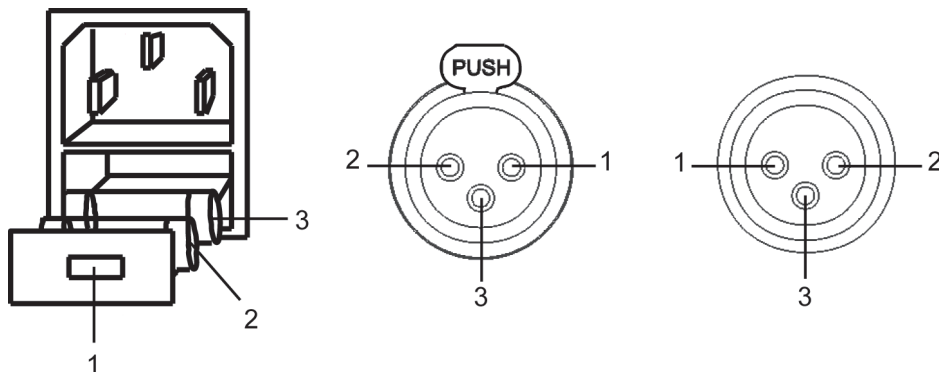


Main inlet

- 1.Fuse drawer
- 2.Spare fuse
- 3.Main fuse

Xlr pin configuration

- 1.Gnd
- 2.+
- 3.-



How to connect your amplifier

Please read this page carefully.

Do not under any circumstances connect or disconnect equipment when power is turned on.

Unbalanced operation

Upon arrival, the amplifier is set for singel-ended use. The amplifier is ready to be connected in a normal way whith a singel-ended preamplifier.

Balanced operation

The balanced mode can only be used if the signal source has a balanced output. Use an XLR interconnect.

Unbalanced/Balanced

Set the "Unbalanced/Balanced" switch to the desiered operation.(Balanced push in - unbalanced out) Use a small screwdriver and push the switch located on the rear of the amplifier. One for each channel.

LED on = Balanced

LED off = Unbalanced

Important: Always turn the amplifier off when changing from unbalanced to balanced mode.

Link

This output can be used to link more amplifiers together.Do not short these outputs to ground or together.

Mono operation

Connect one channel of the preamplifier to the **left input** of the SA-1. Connect an XLR phase adapter from left link to right input.*

Connect the **positive** speaker terminal to the amplifiers **positive left output**. Connect the **negative** speaker terminal to the amplifiers **positive right output**.

*XLR pin configuration:

Female GND pin1,+pin2 and -on pin3.

Male GND pin1,-pin2 and +on pin3.(reverse)

How to power up your system

You should always power up your system the following way: Signal sources (CD player, tuner etc.) first. Then turn on the preamplifier. Allow 30 seconds of preheating before you turn on the power amplifier. After switching on the power amplifier, there will be a 5 seconds delay before the speakers are connected. This will prevent large turn on/off transients to reach the speakers. When turning your system off, you should start by switching off your power amplifier, then the preamplifier, and finally the signal source devices.

Wait approximately one minute before turnig the amplifier back on.

LED circle

The led circle has tre functions:

- 1.Normal operation, the led circle will light up.
- 2.Shorted output terminals, the led circle will blink.
- 3.If maintenance is recommended, the led circle will blink five times at start up.

Short-circuited

The SA-1 has a short circuit monitoring system, if the short circuit monitoring system has been triggered, you have to turn the amplifier off and find the cause. Wait approximately one minute before turning the amplifier back on.

Maintenance interval

To ensure that your amplifier is performing to its maximum efficiency, and to protect your investment, it is essential that your amplifier is serviced in accordance with the correct maintenance interval.

Every 5000 hour we recommend you to have maintenance on your amplifier. This operation involves, among other things, cleaning of connectors, adjustments of DC voltage and idling current.

Servicing

Refer all servicing to qualified personnel. To reduce the risk of electric shock, do not perform any servicing other than that contained in the user manual unless you are qualified to do so. Servicing is required when the amplifier has been damaged in any way, such as the amplifier has been exposed to rain or moisture, does not operate normally or has been dropped.

Do not remove any cover

There are areas with high voltages inside. To reduce the risk of electric shock, do not remove any cover if the AC mains cord is connected. The cover should be removed by qualified personnel only. No user serviceable parts inside.

Fuse

To prevent a fire, make sure to use fuses with specified standard(current, voltage, type). Do not use a different fuse or short circuit the fuse holder. Before replacing the fuse, turn OFF the amplifier and disconnect the power cord.

Cleaning

When the amplifier needs a cleaning, you can blow off dust from the amplifier with a blower or clean with a rag etc. Don't use solvents such as benzol, alcohol or other fluids with very strong volatility and flammability for cleaning the apparatus body.

The following technical data were measured on randomized test objects and are typical data.

All measurements are made with main voltage
120/240 V 50Hz / 60Hz.
Clipping point of the amplifier is set to a level where total
harmonic distortion (THD) is 0.2%.

Output impedance (20-20kHz)	<0.01ohm
Input impedance stereo balanced	330kohm
Input impedance mono balanced	165kohm
Input sensitivity for rated output	1.6V
Max. peak current	>200A
THD (1kHz half power, 8ohm)	<0.02%
THD (1kHz -1dB, 8ohm)	<0.02%
Noise (both inputs shortened)	<130uV
Frequency response	DC-1MHz
Slew rate	100Vus
Channel separation (1kHz-20kHz)	>90dB

Dimensions

Width	483mm	(19")
Depth	380mm	(15")
Height	110mm	(4.3")
Weight	20kg	(33lbs)

The manufacturer reserves the right to alter these specifications
without further notice

If Service is needed

Your dealer will have all relevant information regarding the service station in your area, and will ensure that your unit is serviced with minimum delay. It is our general policy to have your unit returned to you within five working days. This is an average time, and can vary locally, depending on the workload at that particular service station. If, for some reason, there are no service facilities available in your country, please ship the unit to the following address:

ECS Holding AS,
Solheimveien 36,
Box 108, N-1471 Lørenskog,
Norway

Switchboard: +47 67978190
Service: +47 67978198
Fax: +47 67978191

E-mail: support@abrahamsenaudio.com
Service department: service@abrahamsenaudio.com
Web: www.abrahamsenaudio.com

The end-user is responsible for all shipping charges, insurance, re-importation and duty charges. When shipping a product to the factory for service, always include the following:

1. A sales slip or other proof of purchase if repair is claimed under warranty.
2. A proforma invoice with value of goods, stating that the amplifier is returned to Norway for repair.
3. An accompanying letter describing faults, symptoms, or problems with the unit.
4. Always ship the unit in its original carton and packaging material to prevent damage in transit.

Abrahamsent will not cover damages incurred in transit. If you require further information concerning the operation of the unit, or if you have any questions related to service, please do not hesitate to contact your dealer or national distributor.

Adjustment:	Cleaning:	5000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	10000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	15000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	20000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	25000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	30000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	35000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	40000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	45000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

Adjustment:	Cleaning:	50000Hour	
Idling ☐	Connectors ☐		
DC ☐	PCB ☐	Date/Sign/Stamp	

1 Abrahamsen warrants that this product will be free from any defects in materials and/or workmanship for a period of to(2) years from the purchase date, five(5) if you have completed the warranty registration.

2 The extended warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.

3 During the warranty service, Abrahamsen may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with this limited warranty.

4 This warranty does not apply to the damages to this product that occurred as the following conditions:

4.1 Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.

4.2 Normal tear and wear.

4.3 The product has been altered or modified in any way.

4.4 Damage which may have been caused either directly or indirectly by another product / force / etc.

4.5 Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

5 In no event shall Abrahamsen be liable for any incidental or consequential damages. Some countrys do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

6 This warranty gives you the specific rights, and these rights are compatible with this country laws, you may also have other statutory rights that may vary from country to country.